UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,648	09/22/2003	Walter H. Christiansen	US.03.036	1123

33249 7590 06/27/2008

HEXION SPECIALTY CHEMICALS, INC.
1600 SMITH STREET, P.O. BOX 4500
HOUSTON, TX 77210-4500

EXAMINER	
FEELY, MICHAEL J	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
06/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,648	CHRISTIANSEN ET AL.	
	Examiner	Art Unit	
	Michael J. Feely	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-14 and 16-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-14 and 16-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Pending Claims

Claims 1-7, 9-14, and 16-22 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 23, 2008 has been entered.

Response to Amendment

2. The rejection of claims 1-7, 9, 14, and 16-18 under 35 U.S.C. 102(b) as being anticipated by Alvino et al. (US Pat. No. 4,327,143) has been overcome by amendment.

3. The rejection of claims 1-4, 9, 10, and 16-18 under 35 U.S.C. 102(b) as being anticipated by Bagga (US Pat. No. 4,284,574) has been overcome by amendment.

4. The rejection of claims 11-14 under 35 U.S.C. 103(a) as being unpatentable over Bagga (US Pat. No. 4,284,574) has been overcome by amendment.

5. The rejection of claims 5-7 under 35 U.S.C. 103(a) as being unpatentable over Bagga (US Pat. No. 4,284,574) in view of Alvino et al. (US Pat. No. 4,327,143) has been overcome by amendment.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3, 9-14, 16, 17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarzer (US Pat. No. 3,452,116).

Regarding claims 1, 3, 9-14, 16, 17, and 19, Schwarzer discloses: ***(1)*** a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin composition (claims 6-8) comprising: a brominated epoxy resin (claims 6-8); and a *curing mechanism* (claims 6-8); wherein the brominated epoxy resin is derived from the reaction of an epihalohydrin and a phenol or a phenol type compound (claims 6-8); and wherein the contacting occurs by a contacting method (column 7, lines 28-34);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (claims 6-8);

(14) wherein the *curing mechanism* is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids (column 7, lines 15-27)

(16) wherein the phenol or a phenol type compound is selected from the group consisting of bisphenols, halogenated bisphenols, hydrogenated bisphenols, novolac resins, polyalkylene glycols and combinations thereof (*product-by-process limitation wherein the terta-phenol based epoxy resin could have been derived from reaction product of bisphenol and epihalohydrin*); and

(17) a resin coated article prepared by the process of claim 1 (column 7, lines 28-34).

Schwarzer discloses one embodiment, wherein the *curing mechanism* is: ***(1)*** an alkali metal containing cure accelerator compound *see claim for list* (column 6, lines 31-34); ***(9)*** wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (column 6, lines 31-34); ***(10)*** wherein the alkali metal containing compound is represented by the formula MOR or $(MO)_n$-R wherein M is a metal selected from Group 1 of the periodic table of elements, O is oxygen, and R is hydrogen or a substituted or unsubstituted hydrocarbyl group (column 6, lines 31-34); ***(11)*** wherein M is lithium, sodium or potassium, and R is hydrogen or a C_1 to C_{40} hydrocarbyl group (column 6, lines 31-34); ***(12)*** wherein OR represents a hydroxy, a methoxy, an ethoxy, an n-propoxy, an isopropoxy, an n-butoxy, an iso-butoxy, a sec-butoxy, a tert-butoxy, or a phenoxy group (column 6, lines 31-34); and ***(13)*** wherein the alkali metal containing compound is selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, sodium methoxide, potassium methoxide, lithium methoxide and combinations thereof (column 6, lines 31-34).

Schwarzer discloses a second *(and equivalent)* embodiment, wherein the *curing mechanism* is: ***(1)*** a curing agent of a dicyandiamide or a melamine (column 6, lines 49-65, *particularly lines 51-51*); ***(19)*** free of imidazole cure accelerator (column 6, lines 49-65).

In light of this, it has been found that "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining

them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) - *see MPEP 2144.06.*

Therefore, the instantly claimed invention would have been obvious in view of Schwarzer because: (a) he discloses equivalent embodiments, wherein one embodiment uses the instantly claimed *alkali metal* curative and another embodiment uses the instantly claimed *dicyandiamide or melamine* curative; and (b) it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.

Regarding claims 20-22, the teachings of Schwarzer are as set forth above and incorporated herein to obviously satisfy the limitations of claims 20-22.

8. Claims 2, 4-7, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarzer (US Pat. No. 3,452,116) in view of Alvino et al. (US Pat. No. 4,327,143).

Regarding claims 4-7, and 18, Schwarzer discloses that his composition is useful for laminates *(see column 7, lines 28-34)* including electronic devices *(see column 1, lines 21-33)*. However, he fails to explicitly disclose: ***(4)*** wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition; ***(5)*** wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof; ***(6)*** wherein the article is a prepreg, wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic

resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof, and wherein the contacting occurs in a bath comprising the accelerated resin composition and optionally one or more solvents; ***(7)*** wherein the substrate is glass or fiberglass in the form of a woven cloth or a mat; and ***(18)*** a prepreg prepared by the process of claim 1.

The teachings of Alvino et al. disclose an analogous flame retardant epoxy-based resin composition *(see Abstract; column 4, lines 28-50)*. Furthermore, these teachings demonstrate that flame retardant epoxy-based resin compositions are recognized in the art as suitable for use as impregnating resins for electronic prepregs *(see Abstract; claims)*. In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the flame retardant epoxy-based composition of Schwarzer as an impregnating resin for electronic devices because the teachings of Alvino et al. demonstrate that flame retardant epoxy-based resin compositions are recognized in the art as suitable for use as impregnating resins for electronic prepregs.

Regarding claim 2, the combined teachings of Schwarzer and Alvino et al. are as set forth above and incorporated herein. Schwarzer fails to explicitly wherein the accelerated resin composition further comprises one or more solvents.

However, the teachings of Alvino et al. demonstrate that solvents are recognized in the art as suitable additives for impregnating reins *(see column 4, line 51 through column 5, line 21)*. They assist in the dissolution of materials and control viscosity prior to forming a prepreg. In

light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a solvent, as taught by Alvino et al., to impregnating resin of Schwarzer because the teachings of Alvino et al. demonstrate that solvents are recognized in the art as suitable additives for impregnating reins.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

June 22, 2008